

Receiving Report

Date: 15-01-23

Batch No: 131354

Supplier: EB peerless

Dart P/O: 27157

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☒ No ☐
 Receipt: Cash ☐ Cr ☒
 New Supplier Yes ☐ No ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐
 Waybill Attached: Yes ☒ No ☐
 Shipment Complete: Yes ☒ No ☐ N/A ☐
 QC18 Inspection ☐ N/A ☒
 Work Order ☐ N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Rec'd	Quantity Short	Quantity Inspected	Quantity Rejected	Comment / NCR Number

Initials of Receiver

QC12

Sf

Production/Admin:

Date

Received/Costing

Initial

Location



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO27157

Purchase Order Date 1/21/2015

PO Print Date 1/22/2015

Page Number 1 of 1

Order From :

VC-ROY001

RBC ROYAL BANK - VISA
PAYMENT CENTRE, PO BOX 4016, STAT. A
TORONTO, ON M5W 1X6
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

Buyer

Linda Lacelle

Customer POID

Customer Tax #

10127-2607

Terms

COD

Currency

CAD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	71400-20	EPOCAST 50-A/9818 - GALLON	1/21/2015	No	1.00 ✓	\$555.68	\$555.68
	Procurement Quality Clauses		1/21/2015				
	A005 RIGHT OF ENTRY						
	A012 CHEMICAL AND PHYSICAL TEST REPORTS						
	A013 SHELF LIFE CONTROLLED MATERIAL; 60% SHELF						
	LIFE REQUIRED AT RECEIPT						
	A026 CERTIFICATION OF MATERIAL CONFORMANCE						
	A041 QUALITY MANAGEMENT SYSTEM						
	A043 RETENTION OF QUALITY DOCUMENTS						

SP 15-01-23

Line Total: \$555.68

PO Total: \$555.68

PO Instructions: VISA ACCT 4516 0500 0527 9033
EXP 10/16
E.B. PEERLESS

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 3

Change Date: 1/22/2015

CERTIFICATE OF ANALYSIS

Phone Number :
FAX Number :
Print Date : Nov. 12, 2014

Product Designation: EPOCAST 50-A1/9816 US 4G37LB BOE00104 U1
Specification: **BOEING BMS 8-201 TY III REV F**

Product Number : 1774808 Your Product Number : 417080BOE
Customer Number : 2000727417 Our Vendor Number :
Order Number : 8510101573 Your Order Number : P048626
Delivery Number : 8530234036 Batch Number : AK4JP2140K
Quantity : 8.000 EA Exp Date : Nov - 2015
Huntsman Ship Date : Nov. 12, 2014

Component 1	Batch: AK4JA2598A	Mfg Date: Oct. 06, 2014	Exp Date: Nov - 2015
Component 2	Batch: AK4GB2395A	Mfg Date: Jul. 15, 2014	Exp Date: Nov - 2015

Shelf life is 365 days from date of shipment by Huntsman.

Characteristic	Results	Unit	Min	Max
Mixing Ratio (A/B,PBW)	100/14			
Comp Str @ RT Laminate Ind	47818 50784 46364	PSI	45000	
Comp Str @ RT Laminate Avg	48322	PSI	45000	
Comp Mod @ RT Laminate Ind	3400000 3500000 3200000	PSI	2500000	
Comp Mod @ RT Laminate Avg	3366667	PSI	2500000	

It is hereby certified, that the material indicated above has been inspected and tested in accordance with the Huntsman Quality Assurance system. It conforms in all respects to the specification relevant thereto.
The test results given above were carried out on samples as part of the manufacturing process and as part of discharge into the product containers.
This document has been generated automatically from the data of our quality database.

CERTIFICATE OF ANALYSIS

Delivery Number : 8530234036 Batch Number : AK4JP2140K

Characteristic	Results	Unit	Min	Max
Flammability Ext Time Ind	0 0 0	s	0	5
Flammability Ext Time Avg	0	s	0	5
Flammability Burn Length Ind	1.5 1.0 1.5	"	0.0	6.0
Flammability Burn Length Avg	1.3	"	0.0	6.0
Flammability Drip Ext Time Ind	0 0 0	s	0	1
Flammability Drip Ext Time Avg	0	s	0	1
Cure Condition	24 HRS MIN UNDER VAC. @ 75±5°F + 2 TO 2.5 HRS @ 170±10°F			
Cure Condition				

Approved by:

Israel Figueroa

Quality Control

is hereby certified, that the material indicated above has been inspected and tested in accordance with the Huntsman Quality Assurance system. It conforms in all respects to the specification relevant thereto. The test results given above were carried out on samples as part of the manufacturing process and as part of discharge into the product containers. This document has been generated automatically from the data of our quality database.

Material Safety Data Sheet

HUNTSMAN
Enriching lives through Innovation

EPOCAST® 50-A1 US

1. Product and company identification

Product name : EPOCAST® 50-A1 US
Material uses : Resin for adhesive systems
(M)SDS # : 00051756
Validation date : 1/30/2014.
Supplier/Manufacturer : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

E-Mail: MSDS@huntsman.com

In case of emergency : Chemtrec: (800) 424-9300 or (703) 527-3887

2. Hazards identification

Physical state : Liquid.
Odor : Slight
Color : Light yellow

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING!
HARMFUL IF INHALED. CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.
Do not breathe vapor or mist. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

See toxicological information (Section 11)

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Bisphenol A epoxy resin	25068-38-6	30 - 60
Epoxy phenol novolac resin	28064-14-4	30 - 60
tricresyl phosphate	1330-78-5	7 - 13



4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

5. Fire-fighting measures

- Flash point** : Closed cup: >95°C (>203°F)
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
halogenated compounds

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.



7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.



8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Appearance

Physical state : Liquid.
Color : Light yellow
Odor : Slight
pH : Not available.
Boiling/condensation point : >200°C (>392°F)
Melting/freezing point : Not available.
Flash point : Closed cup: >95°C (>203°F)
Flammable limits : Not available.
Auto-ignition temperature : Not available.
Decomposition temperature : >200°C (>392°F)
Vapor pressure : <0.15 kPa (<1.125 mm Hg) [room temperature]
Specific gravity : 1.21
Water solubility : partially soluble
Partition coefficient: n-octanol/water (log Kow) : Not available.
Viscosity : Kinematic (room temperature): 77.7 cm²/s (7770 cSt)
Density : 1.2 g/cm³ [25°C (77°F)]
Vapor density : Not available.
Evaporation rate (butyl acetate = 1) : Not available.

10 . Stability and reactivity

Chemical stability : The product is stable.
Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Materials to avoid : strong acids, strong bases, strong oxidising agents

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity



11. Toxicological information

Product/ingredient name	Test	Endpoint	Species	Result
Epoxy phenol novolac resin	- OECD 402 Acute Dermal Toxicity OECD 420 Acute Oral Toxicity - Fixed Dose Method	LC0 Inhalation Vapor LD50 Dermal LD50 Oral	Rat - Male Rat - Male, Female Rat - Female	0.00001 ppm >2000 mg/kg >2000 mg/kg
Bisphenol A epoxy resin	- OECD 420 Acute Oral Toxicity - Fixed Dose Method	LC0 Inhalation Vapor LD50 Oral	Rat - Male Rat - Female	0.00001 ppm >2000 mg/kg
tricresyl phosphate	- -	LC50 Inhalation Dusts and mists LD50 Oral	Rat Rat	>11.1 mg/l >20000 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Epoxy phenol novolac resin	OECD 405 Acute Eye Irritation/Corrosion OECD 404 Acute Dermal Irritation/Corrosion	Rabbit Rabbit	Eyes - Mild irritant Skin - Mild irritant
Bisphenol A epoxy resin	OECD 404 Acute Dermal Irritation/Corrosion OECD 405 Acute Eye Irritation/Corrosion	Rabbit Rabbit	Skin - Mild irritant Eyes - Mild irritant
tricresyl phosphate	- -	Rabbit Rabbit	Skin - Non-irritant. Eyes - Non-irritant.

Conclusion/ Summary

Skin	: Bisphenol A epoxy resin Epoxy phenol novolac resin tricresyl phosphate	Irritating to skin. Slightly irritating to the skin. Non-irritating to the skin.
Eyes	: Bisphenol A epoxy resin Epoxy phenol novolac resin tricresyl phosphate	Irritating to eyes. Slightly irritating to the eyes. Non-irritating to the eyes.
Respiratory	: Bisphenol A epoxy resin Epoxy phenol novolac resin tricresyl phosphate	No additional information. No additional information. No additional information.

Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Epoxy phenol novolac resin	OECD 429 Skin Sensitization: Local Lymph Node Assay	skin	Mouse	Sensitizing
Bisphenol A epoxy resin	OECD 429 Skin Sensitization: Local Lymph Node Assay	skin	Mouse	Sensitizing
tricresyl phosphate	OECD 429 Skin Sensitization:	skin	Mouse	Ambiguous



11. Toxicological information

	Local Lymph Node Assay			
	-	skin	Other	Not sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Epoxy phenol novolac resin	Experiment: In vitro Subject: Bacteria Metabolic activation: +/- Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal Cell: Germ	Positive Positive Negative Negative
Bisphenol A epoxy resin	Experiment: In vitro Subject: Bacteria Metabolic activation: +/- Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal Cell: Germ	Positive Positive Negative Negative
tricresyl phosphate	Experiment: In vitro Subject: Bacteria Metabolic activation: +/- Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/- Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative Negative Negative

Conclusion/ Summary : Epoxy phenol novolac resin The weight of the scientific evidence indicates that this material is non-genotoxic.

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Epoxy phenol novolac resin	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Male, Female	15 mg/kg	2 years; 7 days per week	Negative - Oral - NOEL
	OECD 453 Combined Chronic Toxicity/	Rat - Female	1 mg/kg	2 years; 5 days per week	Negative - Dermal - NOEL



11 . Toxicological information

Bisphenol A epoxy resin	Carcinogenicity Studies OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Mouse - Male	0.1 mg/kg	2 years; 3 days per week	Negative - Dermal - NOEL
	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Male, Female	15 mg/kg	2 years; 7 days per week	Negative - Oral - NOAEL
	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Female	1 mg/kg	2 years; 5 days per week	Negative - Dermal - NOEL
	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Mouse - Male	0.1 mg/kg	2 years; 3 days per week	Negative - Dermal - NOEL

Reproductive toxicity

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Epoxy phenol novolac resin	OECD 416 Two-Generation Reproduction Toxicity Study	Rat - Male, Female	Negative	Negative	-
Bisphenol A epoxy resin	OECD 416 Two-Generation Reproduction Toxicity Study	Rat - Male, Female	Negative	Negative	Negative
tricresyl phosphate	OECD 415 One-Generation Reproduction Toxicity Study	Rat - Male, Female	Positive	Positive	Positive

Conclusion/ Summary : tricresyl phosphate Reproductive toxin

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Epoxy phenol novolac resin	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Oral
	-	Rabbit - Female	Negative - Dermal
	OECD 414 Prenatal Developmental Toxicity Study	Rabbit - Female	Negative - Oral
	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Oral
Bisphenol A epoxy resin	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Oral
	EPA CFR	Rabbit - Female	Negative - Dermal



11 . Toxicological information

triclesyl phosphate	OECD 414 Prenatal Developmental Toxicity Study	Rabbit - Female	Negative - Oral
	EPA OPPTS	Rat - Female	Positive - Oral

Conclusion/ Summary : triclesyl phosphate May cause harm to the unborn child.

Potential acute health effects

Inhalation : Toxic by inhalation.
Ingestion : No known significant effects or critical hazards.
Skin contact : Irritating to skin. May cause sensitization by skin contact.
Eye contact : Irritating to eyes.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Epoxy phenol novolac resin	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	Sub-chronic NOEL Dermal	Rat - Male, Female	10 mg/kg
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	Sub-chronic NOAEL Dermal	Mouse - Male	100 mg/kg
Bisphenol A epoxy resin	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	Sub-chronic NOEL Dermal	Rat - Male, Female	10 mg/kg
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	Sub-chronic NOAEL Dermal	Mouse - Male	100 mg/kg
triclesyl phosphate	-	Sub-chronic NOEL Oral	Rat - Male, Female	1000 mg/kg

General : Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Target organs : Contains material which causes damage to the following organs: central nervous system (CNS).
 Contains material which may cause damage to the following organs: the reproductive system.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

11 . Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure

Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

12 . Ecological information

Environmental effects : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Water polluting material. May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
Bisphenol A epoxy resin	OECD 203 Fish, Acute Toxicity Test	Acute LC50	96 hours Static	Fish	1.5 mg/l
Epoxy phenol novolac resin	-	Acute EC50	72 hours Static	Algae	9.4 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute EC50	48 hours Static	Daphnia	1.7 mg/l
	-	Acute IC50	3 hours Static	Bacteria	>100 mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute LC50	96 hours Static	Fish	1.5 mg/l
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC	21 days Semi-static	Daphnia	0.3 mg/l
tricresyl phosphate	-	Acute LC50	96 hours Static	Fish	0.6 mg/l
Nonylphenol	ASTM	Acute LC50	96 hours Static	Fish	0.05 mg/l

Persistence and degradability

Product/ingredient name	Test	Period	Result
Bisphenol A epoxy resin	OECD Derived from OECD 301F (Biodegradation Test)	28 days	5 %
Epoxy phenol novolac resin	OECD Derived from OECD 301F (Biodegradation Test)	28 days	5 %
tricresyl phosphate	OECD 301D Ready Biodegradability - Closed Bottle Test	28 days	24.2 %
Nonylphenol	EPA OPPTS	63 days	100 %
	OECD	56 days	50 %
	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	35 days	48.2 %

Conclusion/Summary : Bisphenol A epoxy resin Not readily biodegradable.
tricresyl phosphate Not readily biodegradable.

12 . Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Bisphenol A epoxy resin	Fresh water 4.83 days	-	Not readily
Epoxy phenol novolac resin	Fresh water 3.58 days Fresh water 7.1 days Fresh water 4.83 days Fresh water 3.58 days Fresh water 7.1 days	-	Not readily
tricresyl phosphate	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Bisphenol A epoxy resin	3.242	31	low
Epoxy phenol novolac resin	3.242	31	low
tricresyl phosphate	5.93	-	high
Nonylphenol	5.4	740	high

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : Not Determined

COD : Not Determined

TOC : Not Determined

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14 . Transport information

Proper shipping name

DOT : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, EPOXYPHENOL NOVOLAC RESIN). Marine pollutant









TDG : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, EPOXYPHENOL NOVOLAC RESIN). Marine pollutant

IMDG : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, EPOXYPHENOL NOVOLAC RESIN). Marine pollutant

IATA : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, EPOXYPHENOL NOVOLAC RESIN)



14 . Transport information

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	UN3082	9	III	 	Marine pollutants are only regulated for bulk and vessel shipments, per 49CFR171.4 (c) Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft.
TDG Classification	UN3082	9	III	 	-
IMDG Class	UN3082	9	III	 	<u>Emergency schedules (EmS)</u> F-A, S-F
IATA-DGR Class	UN3082	9	III	 	<u>Passenger and Cargo Aircraft</u> Quantity limitation: 450 L Packaging instructions: 964 <u>Cargo Aircraft Only</u> Quantity limitation: 450 L Packaging instructions: 964

PG* : Packing group



15. Regulatory information

United States

HCS Classification : Toxic material
Irritating material
Sensitizing material
Target organ effects

U.S. Federal regulations

TSCA 8(b) inventory : **United States inventory (TSCA 8b)**: All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard
Delayed (chronic) health hazard

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

SARA 313 : No ingredients listed.

CERCLA Hazardous substances : No ingredients listed.

State regulations

PENNSYLVANIA - RTK : No ingredients listed.

California Prop 65 : **WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>
Methanol	No.	Yes.

International regulations

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

CEPA DSL : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International lists

: **Australia inventory (AICS)**: All components are listed or exempted.
: **China inventory (IECSC)**: All components are listed or exempted.
: **Japan inventory**: All components are listed or exempted.
: **Korea inventory**: At least one component is not listed.
: **Malaysia Inventory (EHS Register)**: Not determined.
: **New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
: **Philippines inventory (PICCS)**: Not determined.
: **Taiwan inventory (CSNN)**: Not determined.



16 . Other information

Label requirements : HARMFUL IF INHALED. CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.) :

Health	2
Flammability	1
Physical hazards	1
Personal protection	

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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☑ Indicates information that has changed from previously issued version.

Notice to reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT



EPOCAST® 50-A1 US

16 . Other information

THE ABOVE ADDRESS.

Material Safety Data Sheet

HUNTSMAN
Enriching lives through innovation

HARDENER 9816 US

1. Product and company identification

Product name : HARDENER 9816 US
Material uses : Hardener for adhesive systems
(M)SDS # : 00056825
Validation date : 8/15/2014.
Supplier/Manufacturer : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

E-Mail: MSDS@huntsman.com

In case of emergency : Chemtrec: (800) 424-9300 or (703) 527-3887

2. Hazards identification

Physical state : Liquid.
Odor : Amine-like.
Color : Amber.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : DANGER!
CAUSES EYE AND SKIN BURNS. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

See toxicological information (Section 11)

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3. Composition/information on ingredients

Name	CAS number	%
N-[2-(imidazolidin-1-yl)ethyl]ethylenediamine	68758-73-6	60 - 100
Triethylene tetramine	112-24-3	3 - 7



4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to physician** : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

5 . Fire-fighting measures

- Flash point** : Closed cup: >100°C (>212°F) [Estimated]
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.



7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Appearance

Physical state : Liquid.
Color : Amber.
Odor : Amine-like.
pH : Not available.
Boiling/condensation point : Not available.
Melting/freezing point : Not available.
Flash point : Closed cup: >100°C (>212°F) [Estimated]
Flammable limits : Not available.
Auto-ignition temperature : Not available.
Decomposition temperature : >200°C (>392°F)

Vapor pressure : Not available.
Specific gravity : 1.02
Water solubility : practically insoluble
Partition coefficient: n-octanol/water (log Kow) : Not available.
Viscosity : Dynamic (room temperature): 250 mPa·s (250 cP)
Density : 1.02 g/cm³ [25°C (77°F)]
Vapor density : Not available.
Evaporation rate (butyl acetate = 1) : Not available.

10 . Stability and reactivity

Chemical stability : The product is stable.
Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Materials to avoid : strong acids, strong bases, strong oxidising agents

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

11. Toxicological information

Product/ingredient name	Test	Endpoint	Species	Result
Triethylene tetramine	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	1465.4 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	1716.2 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Triethylene tetramine	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Skin - Corrosive
	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Eyes - Corrosive

**Conclusion/
Summary**

Skin : N-[2-(imidazolidin-1-yl)ethyl] ethylenediamine Corrosive to the skin.
Triethylene tetramine Corrosive to the skin.

Eyes : N-[2-(imidazolidin-1-yl)ethyl] ethylenediamine Corrosive to eyes.
Triethylene tetramine Corrosive to eyes.

Respiratory : N-[2-(imidazolidin-1-yl)ethyl] ethylenediamine No additional information.
Triethylene tetramine No additional information.

Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Triethylene tetramine	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Triethylene tetramine	Experiment: In vitro Subject: Mammalian-Animal	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative

**Conclusion/
Summary** : Triethylene tetramine The weight of the scientific evidence indicates that this material is non-genotoxic.

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Triethylene tetramine	OECD 451 Carcinogenicity Studies	Mouse - Male	42 mg/kg	3 days per week	Negative - Dermal - NOAEL

Reproductive toxicity

11. Toxicological information

Conclusion/Summary : Triethylene tetramine

In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Triethylene tetramine	OECD 414 Prenatal Developmental Toxicity Study	Rat	Negative - Oral
	OECD 414 Prenatal Developmental Toxicity Study	Rabbit	Negative - Dermal

Potential acute health effects

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact : Corrosive to the skin. Causes burns. Harmful in contact with skin. May cause sensitization by skin contact.

Eye contact : Corrosive to eyes. Causes burns.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Triethylene tetramine	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg/d

General : Contains material that may cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, liver.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure

Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.



12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
Triethylene tetramine	No official guidelines	Acute	EC50 30 minutes Static	Bacteria	800 mg/l
	EU EC C.2 Acute Toxicity for Daphnia	Acute	EC50 48 hours Static	Daphnia	31.1 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute	ErC50 (growth rate) 72 hours Semi-static	Algae	20 mg/l
	EPA OPPTS EPA OTS 797.1400	Acute	LC50 96 hours Static	Fish	330 mg/l
	No official guidelines	Chronic	EC10 30 minutes Static	Bacteria	42.5 mg/l
	OECD OECD 202: Part II (Daphnia sp., Reproduction Test	Chronic	EC10 21 days Semi-static	Daphnia	1.9 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOEC 72 hours Semi-static	Algae	<2.5 mg/l

Persistence and degradability

Product/ingredient name	Test	Period	Result
Triethylene tetramine	OECD 302A Inherent Biodegradability: Modified SCAS Test	84 days	20 %
	OECD 301D Ready Biodegradability - Closed Bottle Test	162 days	0 %

Conclusion/Summary : Triethylene tetramine Not biodegradable

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Triethylene tetramine	-2.65	99	low

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : Not Determined

COD : Not Determined

TOC : Not Determined

13 . Disposal considerations



15 . Regulatory information

United States

- HCS Classification** : Corrosive material
Sensitizing material
Target organ effects
- U.S. Federal regulations**
- TSCA 8(b) inventory** : **United States inventory (TSCA 8b)**: All components are listed or exempted.
- TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.
- TSCA 5(e) substance consent order** : No ingredients listed.
- TSCA 12(b) export notification** : No ingredients listed.
- SARA 311/312** : Immediate (acute) health hazard
Delayed (chronic) health hazard
- Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.
- SARA 313** : No ingredients listed.
- CERCLA Hazardous substances** : No ingredients listed.

State regulations

- PENNSYLVANIA - RTK** : Triethylene tetramine
- California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

International regulations

- Canada**
- WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material
- CEPA DSL** : At least one component is not listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International lists

- Australia inventory (AICS)**: All components are listed or exempted.
- China inventory (IECSC)**: At least one component is not listed.
- Japan inventory**: Not determined.
- Korea inventory**: At least one component is not listed.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- Philippines inventory (PICCS)**: At least one component is not listed.
- Taiwan inventory (CSNN)**: Not determined.



16. Other information

Label requirements : CAUSES EYE AND SKIN BURNS. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) :

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Flammability	1
Physical hazards	1
Personal protection	

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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☑ Indicates information that has changed from previously issued version.

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HARDENER 9816 US

16 . Other information

MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

